4.10. FISH WASTE MANAGEMENT

Management Measure for Fish Waste Management:

Promote sound fish waste management through a combination of fish-cleaning restrictions, public education, and proper disposal of fish waste.

Management Measure Description

Fish waste can create water quality problems at marinas where a lot of fish are landed. This might be the case where long piers or breakwaters provide access to deep water or accommodation for many fishers, where fishing tournaments are held, or at any marina during the local high fishing season. The waste from fish cleaning shouldn't be disposed of into a marina basin because of the chance of overwhelming the natural ability of the waterbody to assimilate and decompose it. The dissolved oxygen consumed by the decomposing fish parts can cause anaerobic, foul-smelling conditions. Unconsumed or floating fish parts are also an unattractive addition to the marina property. Fish waste is better disposed of in offshore waters (if the state allows) where the fish are caught, or treated as waste like any other and deposited in trash containers.

Proper disposal of fish waste by marina patrons helps keep marinas clean and free of waste. Although only a few marinas deal with large amounts of fish waste or fishing within the basin, sport fishers can be found at most marinas, and it is a good idea for marinas to promote proper fish waste disposal. Fish cleaning stations provide convenient places for marina patrons to clean fish and dispose of their waste material, and help to keep the rest of the marina clean. Marina managers often find that once a good fish cleaning station is available to fishing patrons, the patrons gladly use it because gutting a fish at a fish cleaning station avoids the mess created on a boat or dock, and non-fishing marina patrons are likely to appreciate not having fish waste on docks or floating near their boats.

Some states prohibit fish waste from being discarded in nearshore waters and require that marinas prohibit the practice. Without a designated place to clean fish, docks, piers, and bulkheads can become dirty quickly.

Best Management Practices

Pollution Prevention Practices

- *Clean fish offshore where the fish are caught and discard of the fish waste at sea (if allowed by the state).*

Fish waste can be disposed of in the offshore ecosystems from which the fish are caught. The quantity of fish waste produced from recreational fishing generally should not cause any water quality problems in open waters. Some states (such as Florida) require that all game fish be brought ashore intact for measurement by fisheries officials, and this management practice does not apply.

- *Install fish cleaning stations at the marina, and at boat launch sites.*

A fish cleaning station is a particular area set aside for cleaning fish that have been caught. They typically have a cutting table large enough to accommodate a few to many people, a fresh water hose or other form of running water, and

receptacles for the waste. Boaters and fishers can be informed of the presence of the station and encouraged to use it. To keep the stations attractive and sanitary, they should be cleaned frequently, even as often as after each use. Making the station convenient to use and clean will encourage people to keep it clean themselves. Fish waste is placed in covered containers, and the collected waste is disposed of with other solid waste or by some other environmentally friendly means (refer to the next management practice). If nutrient enrichment is not a problem in regional waters, fish cleaning stations can use garbage disposal units to grind the waste, and then send the ground waste to a municipal sewer line for waste disposal.

Where extensive fishing is done from a boat launch site, fish cleaning stations can be helpful. Fish waste disposal is a problem at boat launch sites because boaters return from fishing and usually want to clean their catch before they leave. Fish cleaning stations provide the ideal facility where fishers can gather to discuss their catch and clean it before heading home. As with a marina fish cleaning station, fish waste can be collected in covered containers and disposed of like regular trash or ground and emptied into a local sewage disposal system (where local regulations permit). An alternative approach would be to install an onsite disposal system with a holding tank, though this is not recommended where waterbodies have nutrient enrichment problems.

- *Compost fish waste where appropriate.*

A law passed in 1989 in New York forbids discarding fish waste, with exceptions, into freshwater or within 100 feet of shore. Contaminants in some fish leave few alternatives for disposing of fish waste, so Cornell University and the New York Sea Grant Extension Program conducted a fish composting project to deal with the more than 2 million pounds of fish waste generated by the salmonid fishery each year. In the demonstration project, fish parts were mixed with peat moss and the mixture quickly turned into an excellent compost suitable for gardens. The study found that even with this quantity of waste, if composting was done properly, the problems of odor, rodents, and insects were minimal and the process was effective. Another method of fish waste composting, described by the University of Wisconsin Sea Grant Institute, is suitable for amounts of compost ranging from a bucketful to the quantities produced by a fish-processing plant. A local extension service can be contacted for information on locally applicable composting procedures and equipment and where supplies can be purchased.

- *Freeze fish parts and reuse them as bait or chum on the next fishing trip.*

Fishers might consider recycling their own fish waste into bait for their next fishing trip. The fish parts from one fishing trip can be placed in a plastic bag, frozen, and then used on the next excursion as either bait or offshore chum to attract game fish.

- *Encourage catch and release fishing, which does not kill the fish and produces no fish waste.*

The increasingly popular practice of "catch and release" by recreational and competitive fishermen is reducing the fish waste problem at many marinas.

BMP Summary Table 10 summarizes the BMPs for Fish Waste Management mentioned in this guidance.

BMP Summary Table 10. FISH WASTE MANAGEMENT

MANAGEMENT MEASURE - Promote sound fish waste management through a combination of fish-cleaning restrictions, public education, and proper disposal of fish waste.

ENVIRONMENTAL CONCERNS:

Sportfishing is very popular, but fish cleaning produces waste which can create water quality problems in marinas with poor circulation. Too much fish waste in a confined area can lower oxygen levels in the water, which leads to foul odor and fish kills. Floating fish parts are also an unsightly addition to marina waters.

Best Management Practice Examples & Type	Marina Location & Usage	Benefits to Marina	Projected Environmental Benefits	Initial Cost Estimate	Annual Operation & Maintenance Cost Estimate	Notes
POLLUTION PREVENTION PRACTICES						
Clean fish offshore where the fish are caught and discard of the fish waste at sea (if allowed by the state)	Boats offshore - generally recommended	HIGH; a marina free of fish waste is more pleasant to current and potential customers	HIGH; dispersed disposal of fish waste in open water causes no ecological problems; fish parts become food for seabirds and other animals	None	None	Check to see if offshore disposal of fish waste is allowed; encourage this practice where permitted.
Install fish cleaning stations at the marina, and at boat launch sites	Marina near docks - generally recommended	HIGH; fish cleaning stations are popular; avoids the mess created from cleaning fish on boat or dock; can reduce complaints from other marina customers about waste	HIGH; keeps fish waste out of the water if properly utilized; does not attract sea birds which can foul boats, docks and the water	LOW to EXPENSIVE	MODERATE to LOW	Include a large cutting table, running water, and waste receptacle with cover; station needs frequent cleaning; waste can be disposed of like regular trash or ground and emptied into local sewage system (where local regulations permit).
Compost fish waste where appropriate	Marina near fish cleaning station - generally recommended	HIGH; excellent natural way to convert waste into useful mulch and soil additive for marina landscape use; reduces waste disposal costs	MODERATE; composted fish waste makes a very effective soil additive which also organically fertilizes marina landscaping	LOW	LOW	Contact a local extension service for information on how to compost properly; mix fish waste with peat moss or wood chips; fast composting and odor free process if turned frequently.

BMP Summary Table 10. (cont.) FISH WASTE MANAGEMENT

Best Management Practice Examples & Type	Marina Location & Usage	Benefits to Marina	Projected Environmental Benefits	Initial Cost Estimate	Annual Operation & Maintenance Cost Estimate	Notes
Freeze fish parts and reuse them as bait or chum on the next fishing trip	Fish cleaning station - generally recommended	HIGH; when practical, reusing fish parts for bait keeps waste out of marina	HIGH; produces no waste in the marina	None	None	Educate boaters to encourage this practice; a practical idea, but might not have occurred to all fishers.
Encourage catch and release fishing, which does not kill the fish and produces no fish waste	Boats offshore - universally recommended	HIGH; keeps fish waste out of marina	HIGH; produces no waste; returns fish alive to their habitat	None	None	Can be a way to involve people who don't fish interested in fishing in an environmentally friendly way.